other detailed information will be published as soon as conditions permit.[6]

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EFFECT OF ALLOXAN DIABETES ON THE GROWING RAT

THE purpose of this present investigation was to study alloxan diabetes in the immature animal and to observe the effect of early insulin deprivation on somatic growth. The effect of alloxan in destroying the β-cells of the Langerhans islets[1-5] provides a convenient method of producing diabetes experimentally. It is difficult to ascertain to what extent this metabolic disturbance affects growth in man, since most juvenile diabetics have already attained an excessive height for their age at the time the diabetes becomes apparent.

The animals used for this experiment were 26-day-old Sprague Dawley rats on a diet of Wayne Fox Chow Blox. They were divided into four groups, each consisting of four males and four females. One group was not injected and served as control for the other three groups, which were injected subcutaneously with a 1 per cent. solution of alloxan monohydrate in doses of 25, 30 and 40 mg per gm of body weight, respectively. Within half an hour after injection, alloxan appeared in the urine. It was accompanied by a fall in pH and by the red color which alloxan produces in the presence of amino acids. To control the hypoglycemia[6] which develops after the initial hyperglycemia, the rats were given a 5 per cent. glucose solution to drink for the first day after injection. Insulin was at no time administered to these animals. The alloxan treated rats except one of the females injected with the lowest dose developed diabetes. Glycosuria was more severe in the group with the largest dose and the diabetes persisted in this group, although it disappeared in several of the animals with smaller doses. All the animals in this experiment were lively after the first day and survived until sacrificed at 61 days of age or at some later date.

The effect of alloxan diabetes in stunting the growth of the rat is apparent from the figures in Table 1.

TABLE 1

Dose of alloxan mg/100 g	Sex	Body weight in grams at the age of: 26 days	35 days	42 days	48 days	55 days	61 days
Control	F	46	74	104	121	144	158 (144–168)*
25	F	45	64	94	112	131	144 (136–153)
30	F	45	67	98	115	124	149 (142–155)
40	F	47	57	70	78	95	106 (55–138)
Control	M	46	74	103	126	163	191 (180–213)
25	M	50	72	100	116	143	164 (131–192)
30	M	46	74	109	124	147	179 (169–195)
40	M	47	56	64	70	76	87 (58–111)

* Figures in parenthesis indicate range of values.

Certain other differences were observed in the diabetic rats. One out of eight animals, 0/8, and 3/8 of the 25 mg, 30 mg and 40 mg groups respectively developed cataracts of the lenses.[7] The dwarfed animals had distended abdomens, and at autopsy the stomach and intestines of these animals measured longer, relative to their body weight, than those of the controls. Some of these rats also showed infantile primary and secondary sex organs.

Summary: Severe alloxan diabetes dwarfed the immature rat.

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SCIENTIFIC APPARATUS AND LABORATORY METHODS

A SIMPLE, RAPID TECHNIC OF PREPARING WATER-IN-OIL EMULSIONS OF PENICILLIN, DRUGS AND BIOLOGICS[1]

WATER-IN-OIL emulsions have proved of value in experimental immunization procedures[2] and may become applicable to the immunization of man and domestic animals. Strauch[3] described the use of

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